Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1–26. (Canceled)

Claim 27-43 (Canceled)

Claim 44 (Currently Amended) A nucleic acid molecule coding for a protein selected from the group consisting of ~~isopropyl malate synthase (Rv3710), s-adenosylmethionine synthase metK (Rv1392), succinyl-CoA synthase -chain sucD (Rv0952), oxidoreductase of aldo/keto reductase family (Rv2971),~~ oxidoreductase (Rv0068) from *M. tuberculosis*, ~~elongation factor G (Rv0120c), uridylate kinase (Rv2883c), ABC-type transporter (Rv1463), short chain dehydrogenase/reductase family protein (Rv1856c), 1,3,4,6-tetrachloro-1,4,-cyclohexadiene hydrolase (Rv2579), phosphoribosyl-aminoimidazole carboxylase catalytic subunit (Rv3275c), hypothetical protein (Rv2557), and~~ hypothetical protein (Rv3407) from *M. tuberculosis*, ~~hypothetical protein (Rv3881c), hypothetical protein (Rv2449c), hypothetical protein (Rv0036c), hypothetical protein (Rv2005c) and transcriptional regulator (Crp/Fnr family) (Rv3676) which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium, an antigenic fragment of said protein,~~ and a fusion protein comprising said Rv0068 or said Rv3407 protein, ~~said antigenic fragment~~ or a combination thereof.

Claim 45 (Previously Presented) A composition comprising at least one nucleic acid molecule of claim 44.

Claim 46 (Canceled)

Claim 47 (Canceled)

Claim 48 (Currently Amended) A composition comprising ~~a composition selected from the group consisting of: a) at least one protein selected from the group~~

~~consisting of isopropyl malate synthase (Rv3710), s-adenosylmethionine synthase metK (Rv1392), succinyl-CoA synthase -chain sucD (Rv0952), oxidoreductase of aldo/keto reductase family (Rv2971), oxidoreductase (Rv0068), elongation factor G (Rv0120c), uridylate kinase (Rv2883c), ABC-type transporter (Rv1463), short chain dehydrogenase/reductase family protein (Rv1856c), 1,3,4,6-tetrachloro-1,4,-cyclohexadiene hydrolase (Rv2579), phosphoribosyl-aminoimidazole carboxylase catalytic subunit (Rv3275c), hypothetical protein (Rv2557), and hypothetical protein (Rv3407), hypothetical protein (Rv3881c), hypothetical protein (Rv2449c), hypothetical protein (Rv0036c), hypothetical protein (Rv2005c) and transcriptional regulator (Crp/Fnr family) (Rv3676) which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium; b) an antigenic fragment of said protein; c) a fusion protein comprising at least one of said protein or an antigenic fragment of said protein, and d)~~ a nucleic acid molecule of claim 44, wherein said composition is a pharmaceutical composition further comprising, optionally, a pharmaceutically acceptable carrier.

Claim 49 (Previously Presented) The composition of claim 48, wherein said composition comprises a pharmaceutically acceptable carrier and said composition is a vaccine.

Claim 50 (Currently Amended) A composition comprising ~~a composition comprising selected from the group consisting of: a) at least one protein which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium; b) an antigenic fragment of said protein; c) a fusion protein comprising at least one of said protein or an antigenic fragment of said protein, and d)~~ a nucleic acid molecule of claim 44, wherein said composition is a diagnostic composition further comprising, optionally, suitable means for detection.

Claim 51 (Currently Amended) A method for the production of a vaccine against a virulent strain of the ~~genus Mycobacterium~~ *M. tuberculosis* comprising the steps of

(a) recombinantly expressing a differentially expressed protein ~~of claim 27~~ selected from the group consisting of ~~isopropyl malate synthase (Rv3710), s-~~

~~adenosylmethionine synthase metK (Rv1392), succinyl-CoA synthase -chain sucD (Rv0952), oxidoreductase of aldo/keto reductase family (Rv2971),~~ oxidoreductase (Rv0068) from *M. tuberculosis*, ~~elongation factor G (Rv0120c), uridylate kinase (Rv2883c), ABC-type transporter (Rv1463), short chain dehydrogenase/reductase family protein (Rv1856c), 1,3,4,6-tetrachloro-1,4,-cyclohexadiene hydrolase (Rv2579), phosphoribosyl-aminoimidazole carboxylase catalytic subunit (Rv3275c), hypothetical protein (Rv2557), and~~ hypothetical protein (Rv3407) from *M. tuberculosis*, ~~hypothetical protein (Rv3881c), hypothetical protein (Rv2449c), hypothetical protein (Rv0036c), hypothetical protein (Rv2005c) and transcriptional regulator (Crp/Fnr family) (Rv3676), an antigenic fragment of said protein,~~ or a fusion protein comprising said protein, ~~an antigenic fragment of said protein or a combination thereof;~~ and

(b) combining said recombinantly expressed ~~differentially expressed~~ protein, ~~said antigenic fragment~~ or said fusion protein with a pharmaceutically acceptable carrier.

Claim 52 (Currently Amended) A method for the production of a vaccine against a virulent strain of ~~the genus Mycobacterium~~ *M. tuberculosis* comprising combining a vector comprising a nucleic acid molecule of claim 44 with a biologically acceptable carrier, wherein said nucleic acid molecule in said vector is placed under the control of an expression control sequence.

Claim 53 (Currently Amended) The method of claim 52, wherein a nucleic acid molecule encodes said protein, ~~an antigenic fragment of said protein, or~~ a fusion protein comprising said protein, ~~an antigenic fragment of said protein~~ or a combination thereof.

Claim 54 (Currently Amended) A method of preventing, ameliorating or treating a ~~Mycobacterium~~ *M. tuberculosis* induced disease comprising administering an effective amount of the vaccine of claim 49 to a subject to prevent, ameliorate or treat a ~~Mycobacterium~~ *M. tuberculosis* induced disease in said subject.

Claim 55 (Currently Amended) The method of claim 54, wherein said ~~Mycobacterium~~ *M. tuberculosis* induced disease is selected from the group consisting of tuberculosis, leprosy, tropical skin ulcer, ulceration, abscess, granulomatous (skin) disease, pulmonary disease, lymphadenitis, and cutaneous and disseminated disease.

Claim 56 (Currently Amended) A method of detecting the presence of ~~Mycobacterium~~ *M. tuberculosis* in a sample, comprising contacting the composition of claim 50 with a sample suspected of containing at least one component associated with ~~Mycobacterium,~~ *M. tuberculosis*, wherein said component comprises ~~Mycobacterium,~~ *M. tuberculosis*, pathogenic fragments thereof or derivatives thereof, ~~proteins thereof or~~ polynucleotides encoding said ~~Mycobacterium,~~ *M. tuberculosis*, fragments thereof, derivatives thereof or proteins thereof, and detecting the presence of at least one component in said sample.

Claim 57 (Currently Amended) The method of claim 56, wherein said detection of said component associated with ~~Mycobacterium~~ *M. tuberculosis* is indicative of ~~Mycobacterium~~ an *M. tuberculosis* induced disease selected from the group consisting of tuberculosis, leprosy, tropical skin ulcer, ulceration, abscess, granulomatous (skin) disease, pulmonary disease, lymphadenitis, and cutaneous and disseminated disease.

Claims 58-62 (Canceled)

Claim 63 (Currently Amended) A nucleic acid molecule coding for hypothetical protein (Rv3407) from *M. tuberculosis*, ~~which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium, an antigenic fragment of said protein,~~ or a fusion protein comprising said protein~~, said antigenic fragment or a combination thereof~~.

Claim 64 (Currently Amended) A composition comprising ~~a composition selected from the group consisting of: a) hypothetical protein (Rv3407) which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium; b) an antigenic fragment of said protein; c) a fusion protein comprising at least one of said protein or an antigenic fragment of said protein, and d)~~ a nucleic acid molecule of claim 63,

wherein said composition is a pharmaceutical composition further comprising, optionally, a pharmaceutically acceptable carrier.

Claim 65 (Previously Presented) The composition of claim 64, wherein said composition comprises a pharmaceutically acceptable carrier and said composition is a vaccine.

Claim 66 (Currently Amended) A nucleic acid molecule coding for oxidoreductase (Rv0068) from *M. tuberculosis*, ~~which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium, an antigenic fragment of said protein,~~ or a fusion protein comprising said protein~~, said antigenic fragment or a combination thereof~~.

Claim 67 (Currently Amended) A composition comprising ~~a composition selected from the group consisting of: a) oxidoreductase (Rv0068) which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium; b) an antigenic fragment of said protein; c) a fusion protein comprising at least one of said protein or an antigenic fragment of said protein, and d)~~ a nucleic acid molecule of claim 66, wherein said composition is a pharmaceutical composition further comprising, optionally, a pharmaceutically acceptable carrier.

Claim 68 (Previously Presented) The composition of claim 67, wherein said composition comprises a pharmaceutically acceptable carrier and said composition is a vaccine.